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Conservation Change: Conservation Action in an Era of Climate Change

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Jim Martin cuts to the chase, “I have concluded that only two things really affect fish and wildlife populations, habitat and climate, and the combination of habitat loss and climate change is now the killer.” Martin bases his opinion on what he has seen in his forty years of experience in fish and wildlife management, and also on what he has heard in recent months as board chair of the Teddy Roosevelt Conservation Partnership (www.trcp.org). “I don’t know any sportsmen who don’t see the impact of development, and I don’t know any sportsmen who don’t see the impact of climate change.”



The American pika has joined the polar bear as a species widely publicized as facing the impacts of climate change, being pushed to ever-higher elevations and in turn possibly toward extinction.

Even if there is success in Congress and Copenhagen¹, a recent literature review by the National Wildlife Federation (NWF)² cautions that the greenhouse gases already in the atmosphere spell serious trouble for nature. Conservation efforts will need to change as nature is already changing, and will continue to change.

Accepting Adaptation

Although adaptation is an unfortunately awkward word that can confuse and annoy the broader public (market research suggests “safeguarding” as an alternative), it remains the one most often used within environmental circles when referring to the increasingly busy intersection between nature conservation and climate change.

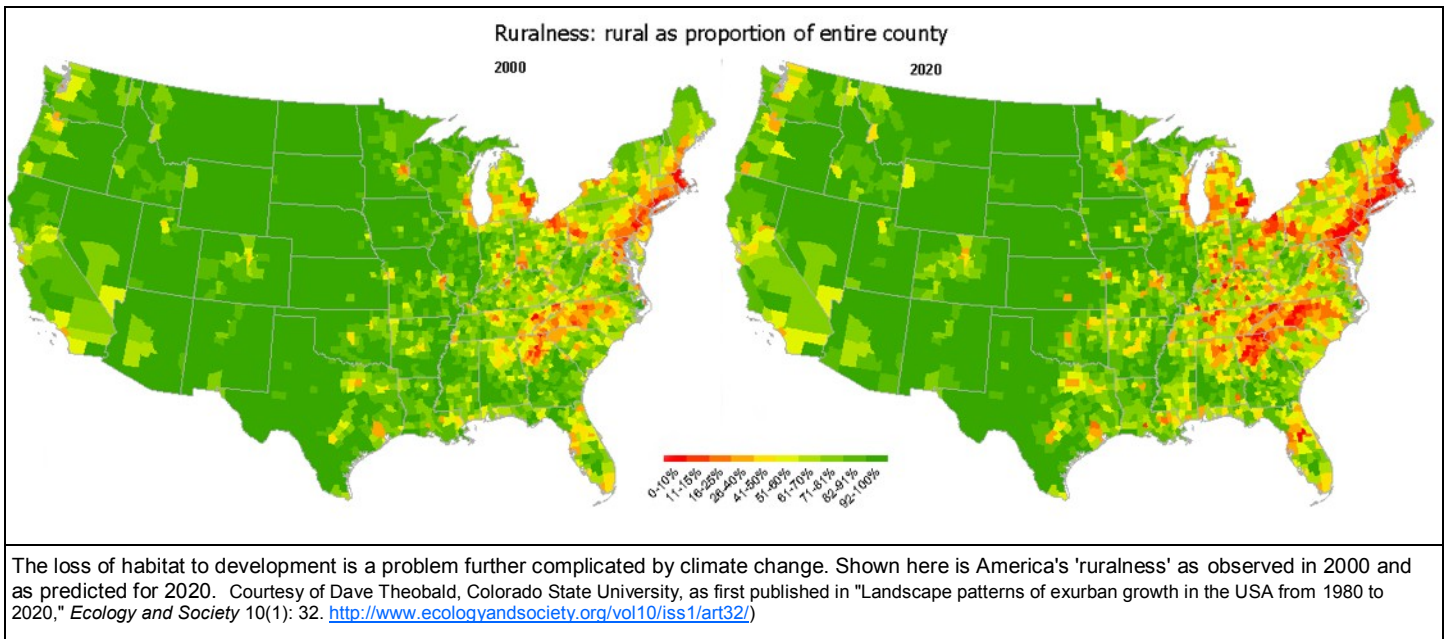
The U.S. Fish & Wildlife Service has put “adaptation” at the top of its climate change plan (http://www.fws.gov/home/climatechange/strategic_plan.html), CGBD has hosted meetings, and many members, includ-

ing the Doris Duke Charitable Foundation (DDCF), the Kresge Foundation and the Wilburforce Foundation, already have incorporated adaptation considerations into their strategies. (See also <http://www.wiserearth.org/group/ccaf>, an online workspace for adaptation funders)

“Climate considerations add a layer of complexity to our habitat conservation efforts, but this is something we cannot ig-

Contents

CGBD Working Groups..... 5



more,” said Jeff Lerner, program officer with the environment program at DDCF. “It is a false choice to say that as funders we should look at adaptation or mitigation only, we need to look at both.”

John Nordgren, senior program officer with the environment program at Kresge, agrees while emphasizing that more remains to be done. “If (foundations) are not at least looking at the impact climate change will have on the things that we value they do so at the disservice of the agenda that they are seeking to advance.”

From the Future to the Present and Back Again

The predictions for the future were never good, but they seemed so broad, so distant.

- Higher air and water temperatures
- Increases in average annual precipitation in wetter regions, and decreases in drier regions
- More extensive drought and wildfires

Unfortunately, the aforementioned literature review now offers evidence that the changes listed above (and more) are already taking place, and already having an impact on natural systems³.

- Birds, butterflies, amphibians and other wildlife breeding or migrating earlier
- Species shifting ranges northward and to higher elevations

- Forest and grassland systems stressed by drought, wildfires, insect outbreaks and the expansion of invasive species

This new reality has led to even more dire predictions for an uncertain future. And, of course, it is not as if the other forces behind the old foes are going away. Consider population and development, with the Census Bureau predicting that by 2040 the population of the United States will have grown from 300 to 392 million. As Jim McElfish, director of the Sustainable Use of Land Program at the Environmental Law Institute (ELI), recently wrote, “Where will all these people—mostly us and our direct descendants—live, work, play, worship, buy, sell and serve? And what will be the results for the nation’s and the environment’s well-being?” When thinking only of population change, these are tough questions. Add climate change to the equation and...

“This can all seem so overwhelming,” admits Darren Long, program officer for the Wildlife Action Opportunities Fund, a program of the Wildlife Conservation Society that works with larger funders to make smaller grants available for activities identified as priorities in the state wildlife action plans. “We had developed a good sense of how to work around development and address habitat loss. We had learned how to hit that pitch. Then climate change threw us a curveball.” To hit that curve ball, Long advises, “We need to gather information, downscale it to the state level and then the local level, and then we can start thinking about applied solutions.”

Joel Clement, conservation science program officer at Wilburforce, adds, “I see this as something that can bind a lot of the CGBD members together...it is not all about sustaining nature for nature’s sake, but also about the role that nature plays in sustaining the earth system and civilization.”



A recent report by The Nature Conservancy found that 95% of New Mexico already has had significant temperature increases over the last three decades, with higher elevation areas especially at risk. Shown here is pinyon pine mortality between 2002 (left) and 2004 (right).
Photos: Courtesy of Craig Allen, USGS

Assessing Vulnerability

The Nature Conservancy of New Mexico, with support from the Opportunities Fund, recently completed a climate change vulnerability assessment, an analysis that looked at the fate of plants, animals and habitats across the state. The results were a wake-up call.

The Conservancy’s state director for New Mexico, Terry Sullivan, recently wrote in an open letter to his members, “This compelling data, and the resulting impacts, have shown us very clearly that while many people believe climate change is something we’ll have to worry about in the future, if at all, the truth is that New Mexico is being impacted right now.” He cites the example of the Jemez Mountains, noting the thousands of dead pinon and ponderosa pine due to invasive beetle infestations linked to climatic changes, and worrying about other impacts.

Dr. Bruce Stein, associate director of wildlife conservation and global warming at NWF, explains the im-

portance of vulnerability assessments in everyday terms. “When you worry about a sunburn, first there is your inherent sensitivity, and then there is your amount of exposure.” Vulnerability assessments, like the one in New Mexico, are essential, argues Stein, for helping to identify those systems and species that are most likely to need conservation action⁴.

Emerging Approaches

The assessments conducted so far are pointing to a set of adaptation strategies, though determining which of these approaches should be applied where will vary by location, as well as over time.

“What may be most important is our accepting that climate change is not an issue apart from our other conservation work, but rather as a layer over our conservation work. For example, climate change will exacerbate the impacts of poorly planned development on the landscape,” says Lerner. “We may still be using many of the same tools, but we will need to use them in new ways, and according to new plans.”

Keeping the above in mind, perhaps the greatest amount of attention is now being given to the concept of connectivity, as a changing climate often will require efforts to establish buffers and create corridors. And efforts to do just this are now underway, with the



Scientists from the Manomet Center study the impact of climate change in an old growth forest. Courtesy of Jerry and Marcy Monkman, Ecophotography.com

notable example of the Western Governors Wildlife Council (WGWC) now overseeing implementation of the recommendations made in WGA’s Wildlife Corridors Initiative Report. There also may be a need for more active management and restoration, with examples of re-nourishing beaches and adding climate re-

sistant plants, as well as other, more radical options, such as assisted migration. Last but not least is an overarching need to embrace uncertainty, with more flexibility in conservation planning and more agility in conservation actions.

“Our past paradigm for dealing with environmental issues has been to evaluate a problem, determine what we can do to remedy that problem, and then create a (fixed) plan,” says Nordgren. “But that involves a sense of certainty about what is going to happen, and we will not have that.”

Updating, Implementing and Revising Plans

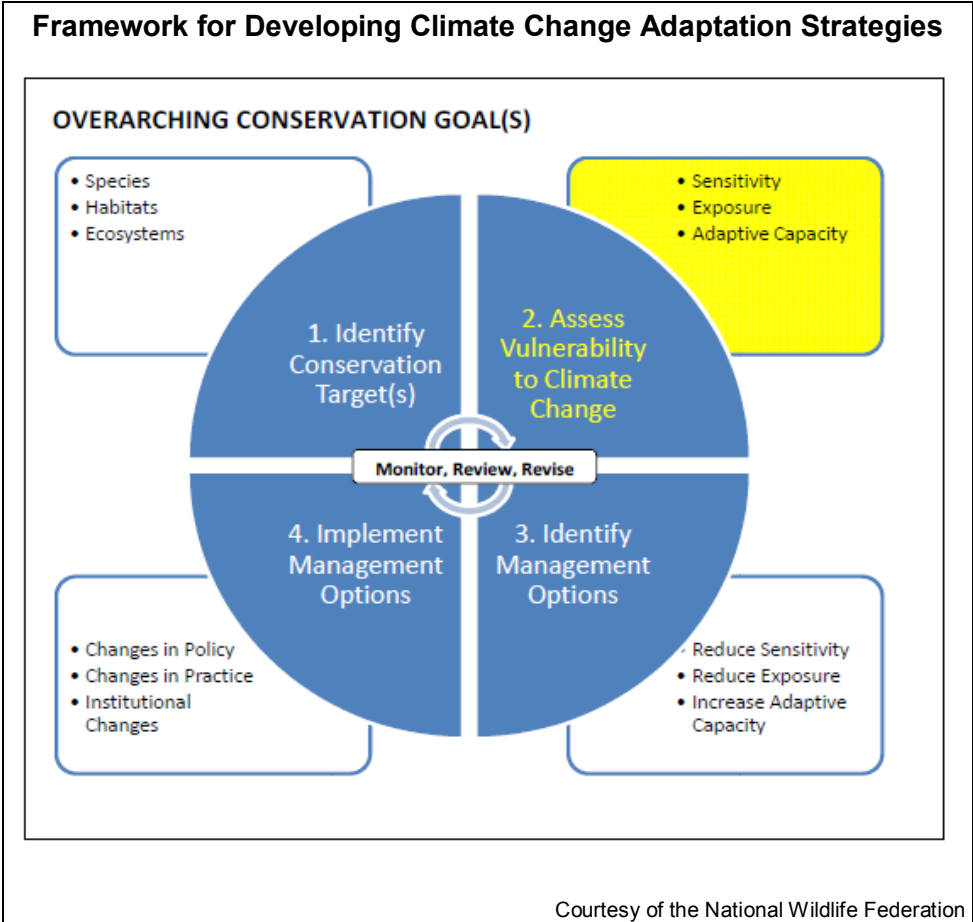
Taking the information from vulnerability assessments and other climate specific studies, and literally getting it all onto the same page is where organizations like AFWA and NatureServe are playing an important role. With a new grant in hand from DDCF, NatureServe is now working in partnership with the state natural heritage programs it represents to assist the state wildlife agencies as they update their wildlife action plans to account for a changing climate. The challenges are many, from creating a consistent system for classifying and mapping habitats so that corridors, for example, can be easily identified and included across borders, to the sharing of successful methods so others know as soon as new ideas are put to the test. Nonetheless, Mary Klein, NatureServe’s president and CEO, is enthusiastic, saying, “We are eager to bring our best science to bear.”

The increasing willingness to test new ideas, and move more quickly from assessment to plans and actions, may be the silver lining in this climate cloud, says Hector Galbraith, Ph.D., director of the climate change initiative at the Manomet Center for Conservation Sciences.

“But before I give you that silver lining, let me give you another black cloud,” cautions Galbraith. “We very rarely ask the question

‘adapt to what,’ for is it a doubling or a tripling of greenhouse gas concentrations? If we only get a doubling, adaptation is a possibility, but if we go much beyond that your options start to slam shut. In this way, the need for adaptation reinforces the need for mitigation, and mitigation reinforces adaptation.” Galbraith and his team, with existing support from the Opportunities Fund and new support from Kresge, are focused on moving forward. “We know that studying the current and expected impacts is valuable, but now is the time also to think about what we are going to do about it. This gets us away from the sheer panic that has prevailed, and gets us to the things we can do...how you manage what you have and how you can refine your acquisitions protocols to make sure you are really making long term investments.”

“We looked at the habitats and species in the (Massachusetts state wildlife action) plan, and we found, not unexpectedly, that some habitats are going to be especially vulnerable, like your high elevation spruce-fir forests, while others are going to be gangbusters, like the central hardwood forests. There are habitats that no amount of management is going to save. Then there are others that are going to come under stress, and those are ones where we can focus.”



And, adds Galbraith on an up note, this often can be accomplished using well-established management practices.

Going even further beyond the scientific and management communities is the long-term priority according to Galbraith. “Those of us in conservation now have to reach out and get together with all of the different sectors - foresters, farmers, municipal planners - and that is a big wild and hairy goal that we really have to tackle. Climate change ups the ante.”

Engaging the Public and Updating Policy

While Galbraith continues his work in Massachusetts, organizations like ELI, The Trust for Public Land (TPL), and the Regional Planning Association (RPA), are doing just as he suggests, reaching out to bring conservation priorities with climate considerations into the local planning processes.

“Communities want to be smart with their money and align strategic investments in nature conservation with their agendas for land use, transportation and other infrastructure,” said Robert D. Yaro, president of RPA. “The challenge is often one of translating research and recommendations into actionable information at the local level, and understanding how such coordinated action also can be supported by state and federal government.” RPA is now working on exactly this challenge with a grant from DDCF, and in partnership with America 2050.

John Kostyack of NWF picks up on Yaro’s last point, emphasizing the need to bring adaptation back up the ladder from local landscape to national policymaker. When Kostyack took a title that included “wildlife conservation” and “global warming,” he was soon aware of his unusual position among policy wonks. “I was looking around for who my colleagues would be

and realized we were a very small cast of characters. It is only in the past couple of years that there has been a major turnaround.” But, he cautions, much remains to be done if conservation policies are going to catch up to climate realities.

From practice to policy, conservation in an era of climate change is clearly a challenge, but, concludes Lerner, “It is also an opportunity,” and his sentiment seems to be widely shared. “We have the challenge of doing what we can to ensure that our prior investments are protected, both through management and policy, and that our future investments are well placed, by assessing vulnerability and applying that knowledge. We also have to be careful to minimize our impact on wildlife habitat as we move toward renewable energy and a greener economy. Through all this, we have the opportunity to reach out to new audiences, and try new approaches, with stakes that couldn’t be higher.”

¹ See also “Philanthropy’s Thumb for Climate Action” in Biodiversity, Summer 2009

² <http://www.nwf.org/globalwarming/pdfs/NWFClimateChangeAdaptationLiteratureReview.pdf>

³ <http://www.nwf.org/globalwarming/pdfs/NWFClimateChangeAdaptationLiteratureReview.pdf>

⁴ See also “Polar Bears, Golden Toads and Conservation Futures” in Biodiversity, Winter 2009



CGBD WORKING GROUPS *Marine Conservation*

In October, the Marine Conservation Working Group convened a webinar on technological innovations that help visualize decisions and scenarios and compile data into a useable form. The speakers and discuss-

ants highlighted two tools, MarineMap and Open OceanMap, and how these tools are used in a live planning process. They also provided thoughts on how open source technology can be transferred to other processes (from siting renewable energy to defining protected areas for migratory whales) and seascapes (from the US Outer Continental Shelf to Philippine archipelagos), each with their unique circumstances.

Looking to next year, the Working Group will convene its annual meeting on March 15-18 in New Orleans. Although a theme has yet to be developed for the meeting, potential topics include:

- US ocean policy progress, opportunities, and implications beyond our borders
- Conservation and use: what does this balance look like in future ocean policy implementation?
- Sustainable financing for ocean policy implementation
- Funder tools for success: program planning and sustaining political will

The Working Group also is in the process of administering its annual member survey, the results of which will be presented at the New Orleans meeting. This is the eighth year the survey has been conducted. The results of the annual survey:

- Provide information on the strategies, issues and level of grantmaking for each of the Marine Working Group members;
- Allow funders to compare their marine grantmaking programs with other leading marine funders; and
- Assist Working Group members as they look for potential partners in collaborative funding.

Conservation Science

This summer, a subset of CGBD funders, with the support of the Conservation Science Working Group, commissioned a report to provide funders with a better understanding on the intersection between wildlife habitat conservation and renewable energy siting and transmission. The intent of the report was to provide a roadmap for addressing this complex issue, which cuts across many of our funding programs and has very significant implications for the conservation community.



Following up on the report, in October the Working Group hosted a funder briefing on *Reconciling Wildlife Habitat Needs and Renewable Energy Development in the West*.

Climate change is driving a shift in Western power supply portfolios from coal to renewable power, leading to plans for considerable levels of development in Western landscapes. Smart planning and siting can create solutions that satisfy conservation, clean energy, and climate goals. Inappropriate development could create conflict among these interests, stymie progress that proves the viability of low-carbon options, and compromise the natural systems upon which the Western ecology and economy depend.

The briefing focused on framing issues and identifying solutions, reviewing current and planned Western policy initiatives, and exploring opportunities for funder collaboration. Briefing topics included: (1) The Habitat, Wildlife, Renewable Power and Transmission Nexus and (2) Case Studies: Issues and Promising Pathways. These sessions were followed by a facilitated funder-only discussion of near-term opportunities for collaboration and long-term objectives and funding strategies.

Land & Freshwater Conservation

In October, the CGBD Land & Freshwater Conservation Working Group hosted a conference call on transforming water infrastructure in the face of climate change. The impacts of climate change will have a tremendous impact on rivers and other fresh-



Gulf of California

The Gulf of California (GOC) funders group has much activity planned for this fall and winter. Several GOC funders attended the WILD 9 World Wilderness Congress in mid-November in Merida, Mexico. For the first time at this conference, held every four years, “marine wilderness” was a particular focus, with a very successful plenary dedicated to marine conservation issues in the Gulf of California.

The GOC funders group continues to work together to support conservation of the endangered vaquita porpoise, a species endemic to the Upper Gulf of California. For the funders, the vaquita fits into a more comprehensive interest in reforming fisheries and marine resource management in the upper part of the Gulf of California.

In an effort to promote the effectiveness of marine protected areas in the region, CGBD is assisting the Packard Foundation in planning a workshop on marine protected area monitoring frameworks and models that will include Mexican government agencies and NGOs, as well as experts from California and abroad.

The GOC funders are also collectively interested in learning more about environmental issues and threats in Sinaloa and Nayarit, and CGBD continues to provide various types of support in that effort.



Climate and Energy Funders Working Group

The Climate and Energy Funders Group hosted two regional funder meetings this quarter; one in the Southeast and one in the Northeast, to identify promising regional funding opportunities. The Southeast funders in-region meeting October 29 was held in conjunction with the Southeast Climate and Energy Network of regional advocates. The funders agreed upon next steps for increasing funder engagement in

water systems. Yesterday's approaches to water management will not meet the challenges of this century and may be counter-productive. Not only will many fail to meet human needs but they will significantly compromise already stressed natural environments.

Only by fundamentally transforming the way we manage water and invest in water infrastructure, can we meet the changing needs of both people and biotic communities. The invited panel of speaker discussed several aspects of this challenge and the opportunities in the areas of management and policy.

Later in the month, the Working Group hosted a conference call on the US Forest Service Roadless Area Conservation Rule. New leadership in Washington, a recent game changing legal decision and more than a decade of advocating and organizing finally affords a real opportunity to give the roadless rule legal and administrative certainty that has evaded it since its inception.

However, formidable obstacles to the rule's full reinstatement remain. For example, depending upon the outcome of the Tenth Circuit litigation, the Obama administration could be required to conduct a new federal roadless rulemaking. In addition, the years of legal wrangling persuaded governors in Idaho and Colorado to proceed with their own state-based process to manage roadless areas, producing proposals that could significantly undercut protection of the 2001 rule.

On February 3-4, 2010, the Working Group will host a funder briefing in Washington, DC on public lands policy and management.



the region, including drafting a one page outreach document, instituting annual funder meetings in the region, and reaching out to regional funders.

The Funders Group also held a funder convening in the Northeast in November. The convening brought together 25 regional funders to receive an update of the Regional Greenhouse Gas Initiative (RGGI) and to discuss next opportunities to push the policy envelope in the Northeast. The Funders Group also completed its 2008 Climate and Energy Funders survey, which examined overall climate and energy funding, funding amounts to the US and global regions, and strategic focus.

The Funders Group is busily planning convenings, briefings, and events for the 90 funders attending COP 15 in Copenhagen. The events range from morning briefings with key advocates from the Climate Action Network, networking receptions, and a high level morning briefing to help global funders connect, compare strategies from across regions, and explore better connecting the global climate and energy funding community.

The Climate and Energy Funders Group Annual Meeting will be convened April 28-29, 2010 in Chicago. The meeting will explore moving and messaging the clean energy economy in light of new opportunities and challenges.

Health & Environmental Funders Network (HEFN)

In November, the Health & Environmental Funders Network (HEFN) held its Tenth Anniversary Meeting in Washington, DC, bringing together funders from across the country to discuss critical environmental health and justice issues. The meeting included a great lineup of sessions and speakers, including keynote speaker Jordan Barab, Acting Assistant Secretary for the Occupational Safety and Health Admini-

stration (OSHA). Over fifty funders attended and early feedback on the meeting has been very positive.

To highlight its tenth anniversary, HEFN has launched a new project to highlight the inspiring voices and visions of advocates and funders who have done so much to build a movement towards a healthier world. HEFN staff encourages funder participation in the project in the following ways:

Check it out: visit the website www.hefn.org to see environmental health and environmental justice stories from this diverse and exciting field.

Submit your own story: share a story or vision about the work that you and/or your grantees have done. Submissions can take the form of audio, video, or a picture and brief written piece. Post something you've already done, or use this platform to share a new story.

Encourage your grantees or colleagues to participate: help your grantees or colleagues highlight their work by encouraging them to post submissions.

HEFN's programming efforts have continued through the fall, including regular conference calls of each our working groups. Some fall highlights include: *Race, Class, and Environmental Justice in the Fight to Reform US Chemicals Policy*; *Chemicals Policy Reform: A Briefing on California-based Efforts*; and *On The Road To Copenhagen And Beyond*, held jointly with the Funders Network on Trade and Globalization. Audio recordings of these calls and others can be found online: www.hefn.org.

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